

AMENDMENTS TO THE CLAIMS

Presented below is a complete set of claims with current status indicators.

1. (currently amended) An output circuit for use in an implantable cardiac stimulation device, comprising:  
an output adapted for connection across a load;  
a charging circuit;  
a voltage storage device coupled between the charging circuit and the output;  
a capacitor switchably coupled across the voltage storage device and the output;  
pulse-width modulation circuitry ~~operative~~ configured to provide a pulse waveform; and

an H-bridge including a first leg and a second leg, each leg including a first switching device ~~operative~~ configured to receive the pulse waveform, and alternately switch between a closed state and an open state in response to the pulse waveform to thereby couple and decouple the voltage storage device across the capacitor and the output ~~in accordance with the pulse waveform~~ to provide a stimulation output having a pulse-width modulated waveform, the capacitor ~~operative~~ arranged to receive current from the voltage storage device when the first switching device is closed and the voltage storage device is coupled across the output, and to supply current to the output when the first switching device is open and the voltage storage device is decoupled across the output.

2. – 3. (previously canceled)

4. (previously presented) The output circuit of claim 1 wherein each leg includes a second switching device that controls polarity of the stimulation output.

5. (original) The output circuit of claim 4 further comprising a polarity control circuit coupled to the second switching device of each leg of the H-bridge.

6. (previously presented) The output circuit of claim 1 further comprising a comparison circuit that compares a desired output waveform to a timing waveform and

provides control signals to the pulse-width modulation circuitry to define the pulse waveform.

7. (previously canceled)

8. (previously presented) The output circuit of claim 1 wherein the capacitor is a non-polar capacitor.

9. (previously presented) The output circuit of claim 1 further comprising an inductor coupled in series with the legs of the H-bridge and a pair of blocking diodes coupled to the inductor.

10. (previously canceled)

11. (previously presented) The output circuit of claim 4 wherein the second switching device of each leg is operative to receive a control signal from a polarity control circuit.

12. (previously presented) The output circuit of claim 11 wherein the H-bridge comprises first, second, and third legs and wherein, when the second switching device of the first leg receives a polarity control signal, the first switching devices of the second and third legs receive a pulse waveform.

13. – 19. (previously canceled)

20. (currently amended) An output circuit for use in an implantable cardiac device comprising:

an output adapted for connection across a load;

a charging circuit;

a first capacitor coupled between the charging circuit and the output;

a second capacitor switchably coupled across the first capacitor and the output;

a pulse-width modulation circuit that generates a pulse-width modulation control signal corresponding to a desired waveform; and

an H-bridge including a first leg and a second leg, each leg including a pulse-width modulation control device operative configured to receive the pulse-width

modulation control signal, and alternately switch between a closed state and an open state in response to the control signal, wherein:

when the control device is in a closed state, couple and decouple the first capacitor is coupled across the second capacitor and the output in accordance with the control signal to provide a stimulation output having the desired waveform; and

when the control device is in an open state, the first capacitor is decoupled across the second capacitor and the output, and the second capacitor is coupled across the output.

21. (previously presented) The output circuit of claim 20 further comprising a comparison circuit that compares the desired output waveform to a timing waveform and provides a control signal to the pulse-width modulation circuit to define the pulse-width modulation control signal.

22. (previously presented) The output circuit of claim 20 wherein the H-bridge comprises a plurality of legs, each leg including a pulse-width modulation control device.

23. (original) The output circuit of claim 22 wherein each leg further includes a polarity control device.

24. (previously presented) The output circuit of claim 23 wherein the H-bridge comprises first, second, and third legs and wherein, when the polarity control device of the first leg controls the polarity, the output voltage modulating devices of the second and third legs are configured to independently alternately couple and decouple the first capacitor across the output.

25. (currently amended) The output circuit of claim 22 wherein the second capacitor is operative arranged to receive current from the first capacitor when the control device is closed and the first capacitor is coupled across the output and to supply current to the output when the control device is open and the first capacitor is decoupled across the output.

26. (previously presented) The output circuit of claim 25 wherein the second capacitor is a non-polar capacitor.